

U.S. Patent Application Serial No. 10/807,516
Amendment filed March 29, 2006
Reply to OA dated January 5, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended): A reamer apparatus for a ground boring machine, comprising:

a substantially hollow conical reamer main body which diameter reduces towards a drawing side;

a rod connecting portion provided at a narrow diameter end portion of the reamer main body for connecting with a rod; and

a coupling structure provided on an opposite side of the rod connecting portion, wherein the coupling structure has a swivel joint that allows rotation of the reamer main body with respect to a buried pipe,

and a main portion of the swivel joint is substantially accumulated [[in]] and extends within the reamer main body.

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Claim 2. (Previously Presented): The reamer apparatus for a ground boring machine according to claim 1, wherein

the swivel joint is arranged in that a rotating side on the reamer main body side and a non-rotating side on the side of the buried pipe are sealed by a floating seal.

Claim 3. (Previously Presented): A reamer apparatus for a ground boring machine, comprising:
a substantially hollow conical reamer main body which diameter reduces towards a drawing side;
a rod connecting portion provided at a narrow diameter end portion of the reamer main body for connecting with a rod;

a coupling structure provided on an opposite side of the rod connecting portion, wherein
a cover for preventing intrusion of sediments is attached to the reamer main body to encompass an outer peripheral side of the coupling structure by the cover for preventing intrusion of sediments while a clearance is formed between an end portion of the cover for preventing intrusion of sediments on a side that is opposite to the reamer main body side and a buried pipe.

Claim 4. (Previously Presented): The reamer apparatus for a ground boring machine according to claim 3, wherein

the cover for preventing intrusion of sediments is arranged in that an end portion thereof on the reamer main body side is plunged into the reamer main body.

Claim 5. (Previously Presented): A reamer apparatus for a ground boring machine, comprising:
a substantially hollow conical reamer main body which diameter reduces towards a drawing side,
wherein
a partitioning member is disposed in the vicinity of an aperture of the reamer main body on a side
of a buried pipe,
a passage is formed within the reamer main body through which drilling fluid is supplied for
injecting a drilling fluid to a portion to be drilled through emission ports, and
an injection tip is provided at the partitioning member through which the drilling fluid that has
entered the passage is discharged to the side of the buried pipe.

Claim 6. (New): A reamer apparatus for a ground boring machine, comprising:
a substantially hollow conical reamer main body which diameter reduces towards a drawing side;
a rod connecting portion provided at a narrow diameter end portion of the reamer main body for
connecting with a rod; and
a coupling structure provided on an opposite side of the rod connecting portion,
wherein:
the coupling structure has a swivel joint that allows rotation of the reamer main body with respect
to a buried pipe,
and a main portion of the swivel joint is substantially accumulated in the reamer main body, and
the swivel joint is arranged in that a rotating side on the reamer main body side and a non-rotating
side on the side of the buried pipe are sealed by a floating seal.